

## CLAIMS

I claim:

1           1. A method of creating a virtual disk storage construct using  
2 disk storage consolidated from at least two grid computers of a  
3 computing grid, comprising:

4           locating an unused portion of a total disk storage space on  
5 disk drives of at least two grid computers of the computing grid;  
6 and

7           presenting a portion of the total disk storage space of each of  
8 the at least two grid computers as a single virtual storage drive on  
9 at least one computer.

1           2. The method of claim 1 additionally including allocating a  
2 portion of the total disk storage space on each of the at least two  
3 grid computers to be made available as part of the virtual storage  
4 drive.

1           3. The method of claim 2 additionally including reserving a  
2 portion of the total disk storage space on each of the at least two  
3 grid computers for local use.

1           4. The method of claim 1 additionally including determining  
2 the total disk storage space on each of the at least two grid  
3 computers and allocating the total disk storage space between a  
4 portion made available for use as part of the virtual storage drive  
5 and a portion reserved for local use on the grid computer.

1           5. The method of claim 1 additionally including maintaining  
2 a table of grid computers contributing storage space to the virtual  
3 storage drive and corresponding amounts of storage space made  
4 available by each contributing grid computers.

1           6. The method of claim 1 additionally including monitoring  
2 at least one of the grid computers for activity indicating that  
3 additional disk storage space has been added to the at least one grid  
4 computer.

1           7. The method of claim 6 additionally including allocating  
2 disk storage space on the at least one grid computer after detecting  
3 activity indicating that additional storage space has been added to  
4 the at least one grid computer.

1           8. The method of claim 1 additionally including monitoring  
2 at least one of the grid computers for activity indicating that a  
3 minimum amount of free disk storage space has been violated.

1           9. The method of claim 8 additionally including allocating  
2 disk storage space on the at least one grid computer after detecting  
3 activity indicating that the minimum amount of free disk storage  
4 space has been violated to restore at least the minimum amount of  
5 free disk storage space.

1           10. The method of claim 1 additionally including providing a  
2 safe area on disk storage space of the virtual storage drive, the safe  
3 area being kept free of data.

1           11. The method of claim 1 additionally including loading an  
2 agent application on each of the grid computers for managing disk  
3 storage space on the grid computer made available to the virtual  
4 storage drive.

1           12. The method of claim 4 additionally comprising copying  
2 data from a reserved portion of the disk storage space of at least  
3 one of the grid computers to an available portion of at least two  
4 other grid computers of the computing grid that have been made  
5 available to the virtual storage drive to thereby backup the copied  
6 data from the reserved portion of the at least one grid computer.

1           13. A computer readable medium tangibly embodying a  
2 program of instructions implementing the following method of  
3 creating a virtual disk storage construct using disk storage  
4 consolidated from at least two grid computers of a computing grid:  
5       locating an unused portion of a total disk storage space on  
6 disk drives of at least two grid computers of the computing grid;  
7 and  
8       presenting a portion of the total disk storage space of each of  
9 the at least two grid computers as a single virtual storage drive on  
10 at least one computer.

1           14. The computer readable medium of claim 13 additionally  
2 implementing the step of allocating a portion of the total disk  
3 storage space on each of the at least two grid computers to be made  
4 available as part of the virtual storage drive.

1           15. The computer readable medium of claim 14 additionally  
2 implementing the step of reserving a portion of the total disk  
3 storage space on each of the at least two grid computers for local  
4 use.

1           16. The computer readable medium of claim 13 additionally  
2 implementing the step of monitoring at least one of the grid  
3 computers for activity indicating that additional disk storage space  
4 has been added to the at least one grid computer.

1           17. The computer readable medium of claim 13 additionally  
2 implementing the step of monitoring at least one of the grid  
3 computers for activity indicating that a minimum amount of free  
4 disk storage space has been violated.

1           18. The computer readable medium of claim 13 additionally  
2 implementing the step of providing a safe area on disk storage  
3 space of the virtual storage drive, the safe area being kept free of  
4 data.

1           19. The computer readable medium of claim 15 additionally  
2 implementing the step of copying data from a reserved portion of  
3 the disk storage space of at least one of the grid computers to an  
4 available portion of at least two other grid computers of the  
5 computing grid that have been made available to the virtual storage  
6 drive to thereby backup the copied data from the reserved portion  
7 of the at least one grid computer.